What is claimed:

1. An apparatus for performing edge enhancement, comprising:

an image sensor sensing an image to output image data;

a line buffer receiving the image data to output the image data;

a register storing the image data transmitted from the line buffer;

an interpolation unit performing an interpolation operation on the image data received from the register;

an edge detection unit performing an edge detection operation on the image data received from the register to output an edge detection value in parallel to the interpolation operation of the interpolation unit according to a selection signal representing a pattern of the image data stored in the register; and

an edge enhancement unit enhancing an output of the interpolation unit according to the edge detection unit of the edge detection unit.

2. The apparatus of claim 1, wherein the interpolation unit outputs a selection signal, and the edge detection unit detects the edge detection value when the selection signal is in an enabled state.

3. The apparatus of claim 1, further comprising:

a comparison unit comparing the edge detection value with a reference value, wherein the edge enhancement unit enhances the output of the interpolation unit when the edge detection value is greater than the reference value.

4. The apparatus of claim 3, further comprising:

a control unit outputting a pattern information signal representing a pattern of the image data stored in the

register, and outputting the reference value to the comparison unit.

5. The apparatus of claim 1, wherein the line buffer outputs the image data sensed by the image sensor in a unit of 3 lines.

6. The apparatus of claim 1, wherein the register stores the image data in a unit of a window in which 3x3 pixels are disposed.

7. The apparatus of claim 1, wherein the edge detection unit receives the image data to generate the edge detection value according to a formula of $X = 4Gc - (G_1 + G_2 + G_3 + G_4)$ where X is the edge detection value, Gc is a pixel value of a center pixel of a window in which 3x3 pixels are disposed among the image data, and G_1, G_2, G_3 , and G_4 are pixel values of adjacent pixels disposed adjacent to the center pixel of the window.

8. The apparatus of claim 3, further comprising:
a comparison unit comparing the edge detection value with a reference value to output a weight, wherein the weight is not zero when the edge detection value is greater than the reference value, and is zero when the edge detection value is not greater than the reference value, and the edge detection value is modified to a multiplication value of the weight and the edge detection value so that the output of the interpolation unit is enhanced according to the multiplication value.

9. The apparatus of claim 3, wherein the interpolation unit outputs R, G, and B values, and the edge enhancement unit adds the multiplication value to the G value.

10. A method of performing edge enhancement, the method comprising:

sensing an image to output image data;

receiving the image data to output the image data in a line buffer;

storing the image data in a register;

performing an interpolation operation on the image data received from the register;

performing an edge detection operation on the image data received from the register to output an edge detection value in parallel to the interpolation operation according to a selection signal representing a pattern of the image data; and

enhancing an output of the interpolation operation according to the edge detection value.

11. The method of claim 10, wherein the enhancing of the output of the interpolation operation comprises:

adding the edge detection value to the output of the interpolation operation.

12. The method of claim 11, wherein the enhancing of the output of the interpolation operation comprises:

comparing the edge detection value with a reference value;

outputting a multiplication value of the edge detection value and a weight generated when the edge detection value is greater than the reference value;

outputting zero value when the edge detection value is not greater than the reference value; and

adding one of the multiplication value or the zero value to the output of the interpolation operation.

13. The method of claim 10, wherein the enhancing of the output of the interpolation operation comprises:

setting a reference value;

comparing the edge detection value with the reference value;

outputting a multiplication value of the edge detection value and a weight generated when the edge detection value is greater than the reference value;

outputting zero value when the edge detection value is not greater than the reference value; and

adding one of the multiplication value or the zero value to the output of the interpolation operation.

14. The method of claim 10, wherein the outputting of the image data in the line buffer comprises:

outputting the image data in a unit of 3 lines.

15. The method of claim 10, wherein the storing of the image data in the register comprises:

storing the image data in a unit of a window in which 3x3 pixels are disposed.

16. The method of claim 10, wherein the performing of the interpolation operation comprises:

outputting a selection signal representing a pattern of the image data stored in the register.

17. The method of claim 16, wherein the performing of the edge detection operation comprises:

performing the edge detection operation when the selection signal is in an enabled state.

18. An apparatus for performing edge enhancement, comprising:

a memory unit storing image data in a unit of a window having lines each having a predetermined number of pixels;

an interpolation unit performing an interpolation operation on the image data received from the memory unit;

an edge detection unit performing an edge detection operation on the image data received from the memory unit to detect an edge detection signal when the interpolation unit performs the interpolation; and

an edge enhancement unit enhancing an output of the interpolation unit according to the edge detection signal of the edge detection unit.

19. The apparatus of claim 18, further comprising:

an image sensor sensing an image to output the image data.

20. The apparatus of claim 18, further comprising:

a control unit generating a pattern signal representing a pattern of the image data stored in the memory unit in a unit of the window, wherein the interpolation unit performs the interpolation unit according to the pattern signal.

21. The apparatus of claim 18, wherein the pixels comprises a center pixel and adjacent pixels, and the edge detection unit detect the edge detection signal according to a multiplication value of a pixel value of the center pixel and the number of the adjacent pixels and a sum of the pixel values of the adjacent pixels.

22. The apparatus of claim 21, wherein the interpolation unit outputs R, G, and B components, and the edge enhancement unit adds a second sum of the multiplication and the sum to the a value of the G component to enhance the G component.

23. The apparatus of claim 21, wherein the interpolation unit outputs a selection signal when it is determined that the pixel value of the center pixel is the

G component, and the edge detection unit outputs the edge detection signal according to the selection signal.

24. The apparatus of claim 21, wherein the edge detection unit modifies the edge detection signal according to a reference value representing a level of the edge enhancement level to generate the modified edge detection signal, and the edge enhancement unit adds the modified edge detection signal to an output of the interpolation unit.

25. The apparatus of claim 18, wherein the edge detection unit and the interpolation unit simultaneously perform the edge detection operation and the interpolation operation, respectively.

26. The apparatus of claim 18, wherein a time delay occurs with respect to the image data when the edge detection unit detects the edge detection signal, and the time delay is a period of time during which pixel values of the pixels disposed in the window are stored in the memory unit.

27. The apparatus of claim 18, wherein the interpolation unit and the edge detection unit are coupled between the memory unit and the edge enhancement unit in parallel.